```
=> file dissabs


FILE 'DISSABS' ENTERED AT 18:15:05 ON 16 FEB 2008
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FILE COVERS 1861 TO 1 FEB 2008 (20080201/ED)

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=> s (trigonal and huntite and borate).ti.
MISSING OPERATOR BORATE).TI.
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s (trigonal and huntite and borate)/ti
            37 TRIGONAL/TI
             2 HUNTITE/TI
           156 BORATE/TI
L1           0 (TRIGONAL AND HUNTITE AND BORATE)/TI

=> s (huntite)/ti
L2           2 (HUNTITE)/TI

=> d iall

L2   ANSWER 1 OF 2  DISSABS COPYRIGHT (C) 2008 ProQuest Information and
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ACCESSION NUMBER:   2006:33831  DISSABS   Order Number: AAI3194090
TITLE:              A new trigonal huntite material and subgroup
                    relationships between crystallographic space groups
AUTHOR:             Hruschka, Michael A. [Ph.D.]; Keszler, Douglas A. [advisor]
CORPORATE SOURCE:   Oregon State University (0172)
SOURCE:             Dissertation Abstracts International, (2005) Vol. 66, No.
                    10B, p. 5394. Order No.: AAI3194090. 1172 pages.
                    ISBN: 0-542-37265-7.
DOCUMENT TYPE:      Dissertation
FILE SEGMENT:       DAI
LANGUAGE:           English
ENTRY DATE:         Entered STN: 20060621
                    Last Updated on STN: 20060621
ABSTRACT:                 The use of an adjacency matrix to determine distant (not
                          maximal or minimal) subgroup and supergroup
                          relationships between crystallographic space-group types
                          is described. Full lists of space-group types that are
                          supergroups and subgroups for every space-group type
                          were compiled. A list of the space-group types connected
                          to each space-group type by combined maximal
                          subgroup/minimal supergroup paths was compiled. Each of
                          these lists was also compiled in matrix form, showing
                          for each pair of space-group types whether one is a
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subgroup of the other and how many maximal subgroup, minimal supergroup, or combination of maximal subgroup and minimal supergroup steps are required to connect them. A method for using these lists and matrices to construct shortest path subgroup/supergroup graphs between space-group types was developed.
From the matrices, statistics were compiled on the number of subgroup and supergroup paths of lengths one to six between space-group types, the average, median, and expected shortest path length between space-group types, and the number of space-group types each space-group type has as subgroups and supergroups. Correlations were sought between these properties and the number of organic and inorganic crystal structures of each space-group type. It was determined that organic compounds tend to crystallize in space-space groups that have many space-group types as supergroups and few space-group types as subgroups. The 17 most prevalent organic structure space-group types, comprising 90% of organic structures, were found to be closely related (paths of length 1 or 2) by subgroup/supergroup paths to each of two space-group types: P2 1 and P21/c. Other space-group type were found to be related to space-group types comprising more than 90% of organic structures by paths of length one or two. Properties of graphs and trees consisting exclusively of type I or type II subgroup relationships are discussed. The subgroup relationships work was motivated by the structure determination of a new trigonal huntite material, yttrium lanthanum scandium borate. Linear and nonlinear optical properties, the structure, and the composition range of this material are discussed.

CLASSIFICATION: 0488 CHEMISTRY, INORGANIC; 0794 ENGINEERING, MATERIALS SCIENCE

=> d iall 2

L2 ANSWER 2 OF 2 DISSABS COPYRIGHT (C) 2008 ProQuest Information and Learning Company; All Rights Reserved on STN

ACCESSION NUMBER: 71:29107 DISSABS Order Number: AAR7214316

TITLE: A CALORIMETRIC DETERMINATION OF THE STABILITY, ENTROPY, HEAT, AND GIBBS ENERGY OF FORMATION FOR THE CARBONATE MINERALS HUNTITE, NESQUEHONITE, ARTINITE, AND HYDROMAGNESITE

AUTHOR: HEMINGWAY, BRUCE SHERMAN [PH.D.]

CORPORATE SOURCE: UNIVERSITY OF MINNESOTA (0130)

SOURCE: Dissertation Abstracts International, (1971) Vol. 32, No. 11B, p. 6475. Order No.: AAR7214316. 278 pages.

DOCUMENT TYPE: Dissertation

FILE SEGMENT: DAI

LANGUAGE: English

ENTRY DATE: Entered STN: 19921118
Last Updated on STN: 19921118

CLASSIFICATION: 0372 GEOLOGY

=>

=>

Executing the logoff script...

=> LOG H

SESSION WILL BE HELD FOR 120 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 18:18:28 ON 16 FEB 2008

* * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'DISSABS' AT 19:34:39 ON 16 FEB 2008
FILE 'DISSABS' ENTERED AT 19:34:39 ON 16 FEB 2008

FILE 'REGISTRY' ENTERED AT 19:34:49 ON 16 FEB 2008
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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STRUCTURE FILE UPDATES: 15 FEB 2008 HIGHEST RN 1003765-97-6
DICTIONARY FILE UPDATES: 15 FEB 2008 HIGHEST RN 1003765-97-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

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experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> d 1-5

L5 ANSWER 1 OF 5 REGISTRY COPYRIGHT 2008 ACS on STN
RN 910055-88-8 REGISTRY
ED Entered STN: 10 Oct 2006
CN Scandium ytterbium oxide (ScYbO3) (9CI) (CA INDEX NAME)
MF O . Sc . Yb
AF O3 Sc Yb
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
O	3	17778-80-2
Yb	1	7440-64-4
Sc	1	7440-20-2

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 2 OF 5 REGISTRY COPYRIGHT 2008 ACS on STN
RN 73146-02-8 REGISTRY
ED Entered STN: 16 Nov 1984
CN Scandium terbium oxide (ScTbO3) (CA INDEX NAME)
OTHER NAMES:
CN Terbium scandate (TbScO3)
MF O . Sc . Tb
AF O3 Sc Tb
CI TIS
LC STN Files: CA, CAPLUS, USPATFULL

Component	Ratio	Component Registry Number
O	3	17778-80-2
Tb	1	7440-27-9
Sc	1	7440-20-2

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

8 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
8 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 3 OF 5 REGISTRY COPYRIGHT 2008 ACS on STN
RN 25962-01-0 REGISTRY
ED Entered STN: 16 Nov 1984
CN Antimony scandium oxide (SbScO4) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Antimonic acid (H3SbO4), scandium(3+) salt (1:1) (8CI)
CN Scandium antimonate(V) (ScSbO4) (7CI)
OTHER NAMES:
CN Scandium antimonate (ScSbO4)
DR 61419-99-6
MF O . Sb . Sc
AF O4 Sb Sc
CI TIS
LC STN Files: CA, CAOLD, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPAT2, USPATFULL, USPATOLD

Component	Ratio	Component Registry Number
O	4	17778-80-2
Sb	1	7440-36-0
Sc	1	7440-20-2

7 REFERENCES IN FILE CA (1907 TO DATE)
7 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2008 ACS on STN

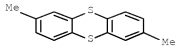
RN 12351-60-9 REGISTRY
ED Entered STN: 16 Nov 1984
CN Niobium scandium oxide (NbScO4) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Scandium niobate(V) (6CI, 7CI)
OTHER NAMES:
CN Scandium niobate (ScNbO4)
DR 12533-67-4
MF Nb . O . Sc
AF Nb O4 Sc
CI COM, TIS
LC STN Files: CA, CAOLD, CAPLUS, CSCHEM, USPATFULL

Component	Ratio	Component Registry Number
O	4	17778-80-2
Sc	1	7440-20-2
Nb	1	7440-03-1

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

29 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
29 REFERENCES IN FILE CAPLUS (1907 TO DATE)
5 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2008 ACS on STN
RN 135-58-0 REGISTRY
ED Entered STN: 16 Nov 1984
CN Thianthrene, 2,7-dimethyl- (CA INDEX NAME)
OTHER NAMES:
CN 2,7-Dimethylthianthrene
CN Cutilen
CN Cutosolo
CN Mesulfen
CN Mesulphen
CN Mitabol
CN Mitigal
CN Neosulfine
CN Odylen
CN Peligal
CN Scabol
CN Sudermo
CN Thianthol
CN Thianthrol
MF C14 H12 S2
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, DDFU, DRUGU, EMBASE, MEDLINE, MRCK*, PROMT, PS, RTECS*, TOXCENTER, USAN, USPATFULL, USPATOLD
(*File contains numerically searchable property data)
Other Sources: EINECS**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

36 REFERENCES IN FILE CA (1907 TO DATE)
5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
36 REFERENCES IN FILE CAPLUS (1907 TO DATE)
6 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> d his

(FILE 'HOME' ENTERED AT 18:14:23 ON 16 FEB 2008)

FILE 'DISSABS' ENTERED AT 18:15:05 ON 16 FEB 2008
L1 0 S (TRIGONAL AND HUNTITE AND BORATE)/TI
L2 2 S (HUNTITE)/TI

FILE 'REGISTRY' ENTERED AT 19:34:49 ON 16 FEB 2008
L3 0 S LA!!!Y!!!SC!BO?
L4 0 S LA(3W)Y(3W)SC!BO?
L5 5 S SC!BO?

=> => d his

(FILE 'HOME' ENTERED AT 18:14:23 ON 16 FEB 2008)

FILE 'DISSABS' ENTERED AT 18:15:05 ON 16 FEB 2008
L1 0 S (TRIGONAL AND HUNTITE AND BORATE)/TI
L2 2 S (HUNTITE)/TI

FILE 'REGISTRY' ENTERED AT 19:34:49 ON 16 FEB 2008
L3 0 S LA!!!Y!!!SC!BO?
L4 0 S LA(3W)Y(3W)SC!BO?
L5 5 S SC!BO?
L6 62 S LANTHANUM(4A)SCANDIUM(4A)BORATE
L7 14 S LANTHANUM(4A)YTTRIUM(4A)SCANDIUM(4A)BORATE

FILE 'CA' ENTERED AT 19:42:42 ON 16 FEB 2008

=> s l7
L8 24 L7

=> s optical
L9 884666 OPTICAL

=> s l8 and l9
L10 6 L8 AND L9

=> d 6 all

L10 ANSWER 6 OF 6 CA COPYRIGHT 2008 ACS on STN
AN 140:119647 CA Full-text
ED Entered STN: 12 Feb 2004
TI Rare earth scandoborate-based nonlinear optical materials and

UV-emitting sources employing the materials

IN Keszler, Douglas A.; Stone-Sundberg, Jennifer L.; Ye, Ning; Hruschka, Michael A.

PA The State of Oregon Acting by and Through the State Board of Higher Education, On Behalf of Oregon State University, USA

SO PCT Int. Appl., 29 pp.
CODEN: PIXXD2

DT Patent

LA English

IC ICM C01B

CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004007352	A2	20040122	WO 2003-US22075	20030714
	WO 2004007352	A3	20040902		
	WO 2004007352	B1	20050224		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	AU 2003249258	A1	20040202	AU 2003-249258	20030714
	US 2005247918	A1	20051110	US 2005-520364	20050103
PRAI	US 2002-395681P	P	20020712		
	WO 2003-US22075	W	20030714		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004007352	ICM	C01B
	IPCI	C01B [ICM,7]
	IPCR	C01B0035-00 [I,C*]; C01B0035-12 [I,A]; C30B0009-00 [I,A]; C30B0009-00 [I,C*]; G02F0001-35 [I,C*]; G02F0001-355 [I,A]
	ECLA	C01B035/12; C30B009/00+29/10; C30B009/00+29/22; G02F001/355C
AU 2003249258	IPCI	G02B0005-20 [ICM,7]; G02F0001-35 [ICS,7]; C01F0003-00 [ICS,7]
	IPCR	C01B0035-00 [I,C*]; C01B0035-12 [I,A]; C30B0009-00 [I,A]; C30B0009-00 [I,C*]; G02F0001-35 [I,C*]; G02F0001-355 [I,A]
US 2005247918	IPCI	G02B0005-30 [ICM,7]
	IPCR	G02B0005-30 [I,C*]; G02B0005-30 [I,A]; G02F0001-35 [I,C*]; G02F0001-355 [I,A]
	NCL	252/585.000
	ECLA	G02F001/355C

AB Nonlinear optical materials are described having the general formula MxM'yScz(BO3)4 where M and M' are selected from La, Pr, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Sc and Y; and the sum of x, y, and z is ≈ 4. One example of such a material is La0.7Y0.3Sc3(BO3)4. Exemplary crystalline materials according to the general formula exhibit useful optical characteristics and desirable phys. properties for nonlinear optical applications. Compns. and UV devices using the nonlinear optical materials are also described.

ST scandoborate lanthanum nonlinear optical crystal UV source NLO;

rare earth scandium borate nonlinear optical crystal UV source
IT Nonlinear optical materials
UV sources
(rare earth scandoborate-based nonlinear optical materials and UV-emitting sources employing materials)
IT Borates
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(rare earth scandoborate-based nonlinear optical materials and UV-emitting sources employing materials)
IT Rare earth compounds
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(scandoborate; rare earth scandoborate-based nonlinear optical materials and UV-emitting sources employing materials)
IT 1314-36-9, Yttrium oxide, uses 13453-69-5, Lithium borate
RL: NUU (Other use, unclassified); USES (Uses)
(flux; rare earth scandoborate-based nonlinear optical materials prepared using)
IT 554-13-2, Lithium carbonate 1303-86-2, Boron oxide B2O3, uses
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(flux; rare earth scandoborate-based nonlinear optical materials prepared using)
IT 648431-00-9P, Lanthanum scandium yttrium borate (La0.7Sc3Y0.3(BO3)4)
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(rare earth scandoborate-based nonlinear optical materials and UV-emitting sources employing materials)
IT 7429-91-6D, Dysprosium, compds. 7439-91-0D, Lanthanum, compds. 7439-94-3D, Lutetium, compds. 7440-10-0D, Praseodymium, compds. 7440-19-9D, Samarium, compds. 7440-20-2D, Scandium, compds. 7440-27-9D, Terbium, compds. 7440-30-4D, Thulium, compds. 7440-52-0D, Erbium, compds. 7440-53-1D, Europium, compds. 7440-54-2D, Gadolinium, compds. 7440-60-0D, Holmium, compds. 7440-64-4D, Ytterbium, compds. 7440-65-5D, Yttrium, compds.
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(rare earth scandoborate-based nonlinear optical materials and UV-emitting sources employing materials)
IT 648431-01-0 648431-02-1 648431-03-2, Erbium lanthanum scandium yttrium borate (Er0.15La0.7Sc3Y0.15(BO3)4) 648431-04-3, Lanthanum scandium yttrium borate (La0.75Sc3Y0.25(BO3)4)
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(rare earth scandoborate-based nonlinear optical materials and UV-emitting sources employing materials)

=> d all 5

L10 ANSWER 5 OF 6 CA COPYRIGHT 2008 ACS on STN
AN 140:294463 CA Full-text
ED Entered STN: 22 Apr 2004
TI Phosphor blends and backlight sources for color liquid crystal displays
IN Setlur, Anant Achyut; Srivastava, Alok Mani; Comanzo, Holly Ann
PA General Electric Company, USA

SO U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM C09K011-08
INCL 349069000; 252301400R; 252301400P; 252301400H; 252301400F; 252301600F; 252301600P; 252301400S
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004056990	A1	20040325	US 2002-65181	20020924
	US 6809781	B2	20041026		
	TW 282883	B	20070621	TW 2003-92125345	20030915
	JP 2004168996	A	20040617	JP 2003-329248	20030922
	EP 1403355	A1	20040331	EP 2003-255943	20030923
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	KR 2004026628	A	20040331	KR 2003-65794	20030923
	CN 1495486	A	20040512	CN 2003-158772	20030924
PRAI	US 2002-65181	A	20020924		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2004056990	ICM	C09K011-08
	INCL	349069000; 252301400R; 252301400P; 252301400H; 252301400F; 252301600F; 252301600P; 252301400S
	IPCI	C09K0011-08 [ICM,7]
	IPCR	C09K0011-08 [I,C*]; C09K0011-08 [I,A]; C09K0011-56 [I,C*]; C09K0011-56 [I,A]; C09K0011-57 [I,C*]; C09K0011-57 [I,A]; C09K0011-59 [I,C*]; C09K0011-59 [I,A]; C09K0011-61 [I,C*]; C09K0011-61 [I,A]; C09K0011-64 [I,C*]; C09K0011-64 [I,A]; C09K0011-66 [I,C*]; C09K0011-66 [I,A]; C09K0011-70 [I,C*]; C09K0011-71 [I,A]; C09K0011-73 [I,A]; C09K0011-77 [I,C*]; C09K0011-77 [I,A]; C09K0011-78 [I,A]; C09K0011-80 [I,A]; C09K0011-82 [I,A]; C09K0011-84 [I,A]; F21S0002-00 [I,C*]; F21S0002-00 [I,A]; F21Y0101-02 [N,A]; F21Y0105-00 [N,A]; G02F0001-13 [I,C*]; G02F0001-13357 [I,A]; H01J0061-38 [I,C*]; H01J0061-44 [I,A]; H01L0051-50 [I,C*]; H01L0051-50 [I,A]; H05B0033-12 [I,C*]; H05B0033-12 [I,A]; H05B0033-14 [I,C*]; H05B0033-14 [I,A]
	NCL	349/069.000; 252/301.400F; 252/301.400H; 252/301.400P; 252/301.400R; 252/301.400S; 252/301.600F; 252/301.600P
	ECLA	C09K011/08E; C09K011/57; C09K011/77N6; C09K011/77N10B; C09K011/77N10B2; C09K011/77N12; C09K011/77S12; G02F001/13357L; H05B033/14
TW 282883	IPCI	G02F0001-13 [I,C]; G02F0001-1335 [I,A]
	IPCR	C09K0011-08 [I,C*]; C09K0011-08 [I,A]; C09K0011-56 [I,C*]; C09K0011-56 [I,A]; C09K0011-57 [I,C*]; C09K0011-57 [I,A]; C09K0011-59 [I,C*]; C09K0011-59 [I,A]; C09K0011-61 [I,C*]; C09K0011-61 [I,A]; C09K0011-64 [I,C*]; C09K0011-64 [I,A]; C09K0011-66 [I,C*]; C09K0011-66 [I,A]; C09K0011-70 [I,C*]; C09K0011-71 [I,A]; C09K0011-73 [I,A]; C09K0011-77 [I,C*]; C09K0011-77 [I,A]; C09K0011-78 [I,A]; C09K0011-80 [I,A]; C09K0011-82 [I,A]; C09K0011-84

		[I,A]; F21S0002-00 [I,C*]; F21S0002-00 [I,A]; F21Y0101-02 [N,A]; F21Y0105-00 [N,A]; G02F0001-13357 [I,A]; H01J0061-38 [I,C*]; H01J0061-44 [I,A]; H01L0051-50 [I,C*]; H01L0051-50 [I,A]; H05B0033-12 [I,C*]; H05B0033-12 [I,A]; H05B0033-14 [I,C*]; H05B0033-14 [I,A]
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JP 2004168996	IPCI	C09K0011-08 [ICM,7]; C09K0011-56 [ICS,7]; C09K0011-59 [ICS,7]; C09K0011-61 [ICS,7]; C09K0011-64 [ICS,7]; C09K0011-66 [ICS,7]; C09K0011-71 [ICS,7]; C09K0011-73 [ICS,7]; C09K0011-70 [ICS,7,C*]; C09K0011-78 [ICS,7]; C09K0011-80 [ICS,7]; C09K0011-82 [ICS,7]; C09K0011-84 [ICS,7]; C09K0011-77 [ICS,7,C*]; F21S0002-00 [ICS,7]; G02F0001-1335 [ICS,7]; G02F0001-13 [ICS,7,C*]; H01J0061-44 [ICS,7]; H01J0061-38 [ICS,7,C*]; H05B0033-12 [ICS,7]; H05B0033-14 [ICS,7]; F21Y0101-02 [ICS,7]; F21Y0105-00 [ICS,7]
	IPCR	C09K0011-08 [I,A]; C09K0011-08 [I,C*]; C09K0011-57 [I,A]; C09K0011-57 [I,C*]; C09K0011-77 [I,A]; C09K0011-77 [I,C*]; G02F0001-13 [I,C*]; G02F0001-13357 [I,A]; H05B0033-14 [I,A]; H05B0033-14 [I,C*]
	FTERM	2H091/FA02Y; 2H091/FA08X; 2H091/FA08Z; 2H091/FA14Z; 2H091/FA23Z; 2H091/FA31Z; 2H091/FA42Z; 2H091/FA44Z; 2H091/FA45Z; 2H091/FB02; 2H091/FB06; 2H091/FB12; 2H091/FB13; 2H091/FC01; 2H091/FC02; 2H091/FD06; 2H091/FD11; 2H091/FD22; 2H091/HA06; 2H091/LA15; 2H091/LA30; 3K007/AB04; 3K007/BB06; 3K007/DB03; 4H001/CA04; 4H001/CA05; 4H001/XA01; 4H001/XA05; 4H001/XA08; 4H001/XA09; 4H001/XA12; 4H001/XA13; 4H001/XA14; 4H001/XA15; 4H001/XA16; 4H001/XA17; 4H001/XA20; 4H001/XA21; 4H001/XA30; 4H001/XA31; 4H001/XA32; 4H001/XA35; 4H001/XA38; 4H001/XA39; 4H001/XA49; 4H001/XA56; 4H001/XA57; 4H001/XA59; 4H001/XA62; 4H001/XA64; 4H001/XA65; 4H001/XA71; 4H001/YA25; 4H001/YA58; 4H001/YA63; 4H001/YA65; 4H001/YA83
EP 1403355	IPCI	C09K0011-08 [ICM,7]; C09K0011-77 [ICS,7]; G02F0001-1335 [ICS,7]; G02F0001-13 [ICS,7,C*]; H01J0061-00 [ICS,7]; H01L0033-00 [ICS,7]
	IPCR	C09K0011-08 [I,C*]; C09K0011-08 [I,A]; C09K0011-56 [I,C*]; C09K0011-56 [I,A]; C09K0011-57 [I,C*]; C09K0011-57 [I,A]; C09K0011-59 [I,C*]; C09K0011-59 [I,A]; C09K0011-61 [I,C*]; C09K0011-61 [I,A]; C09K0011-64 [I,C*]; C09K0011-64 [I,A]; C09K0011-66 [I,C*]; C09K0011-66 [I,A]; C09K0011-70 [I,C*]; C09K0011-71 [I,A]; C09K0011-73 [I,A]; C09K0011-77 [I,C*]; C09K0011-77 [I,A]; C09K0011-78 [I,A]; C09K0011-80 [I,A]; C09K0011-82 [I,A]; C09K0011-84 [I,A]; F21S0002-00 [I,C*]; F21S0002-00 [I,A]; F21Y0101-02 [N,A]; F21Y0105-00 [N,A]; G02F0001-13 [I,C*]; G02F0001-13357 [I,A]; H01J0061-38 [I,C*]; H01J0061-44 [I,A]; H01L0051-50 [I,C*]; H01L0051-50 [I,A]; H05B0033-12 [I,C*]; H05B0033-12 [I,A]; H05B0033-14 [I,C*]; H05B0033-14 [I,A]
	ECLA	C09K011/08E; C09K011/57; C09K011/77N6; C09K011/77N10B; C09K011/77N10B2; C09K011/77N12; C09K011/77S12; G02F001/13357L; H05B033/14
KR 2004026628	IPCI	C09K0011-78 [ICM,7]; C09K0011-77 [ICM,7,C*]

ECLA C09K011/08E; C09K011/57; C09K011/77N6; C09K011/77N10B; C09K011/77N10B2; C09K011/77N12; C09K011/77S12; G02F001/13357L; H05B033/14

CN 1495486 IPCI G02F0001-1335 [ICM,7]; G02F0001-1335 [ICS,7]; G02F0001-13 [ICS,7,C*]; C09K0011-00 [ICS,7]

IPCR C09K0011-08 [I,C*]; C09K0011-08 [I,A]; C09K0011-56 [I,C*]; C09K0011-56 [I,A]; C09K0011-57 [I,C*]; C09K0011-57 [I,A]; C09K0011-59 [I,C*]; C09K0011-59 [I,A]; C09K0011-61 [I,C*]; C09K0011-61 [I,A]; C09K0011-64 [I,C*]; C09K0011-64 [I,A]; C09K0011-66 [I,C*]; C09K0011-66 [I,A]; C09K0011-70 [I,C*]; C09K0011-71 [I,A]; C09K0011-73 [I,A]; C09K0011-77 [I,C*]; C09K0011-77 [I,A]; C09K0011-78 [I,A]; C09K0011-80 [I,A]; C09K0011-82 [I,A]; C09K0011-84 [I,A]; F21S0002-00 [I,C*]; F21S0002-00 [I,A]; F21Y0101-02 [N,A]; F21Y0105-00 [N,A]; G02F0001-13 [I,C*]; G02F0001-13357 [I,A]; H01J0061-38 [I,C*]; H01J0061-44 [I,A]; H01L0051-50 [I,C*]; H01L0051-50 [I,A]; H05B0033-12 [I,C*]; H05B0033-12 [I,A]; H05B0033-14 [I,C*]; H05B0033-14 [I,A]

ECLA C09K011/08E; C09K011/57; C09K011/77N6; C09K011/77N10B; C09K011/77N10B2; C09K011/77N12; C09K011/77S12; G02F001/13357L; H05B033/14

AB Phosphor compns. which comprises at least one phosphor emitting in each of the blue, green, and red regions of the visible spectrum are described for use in a backlight source of a color liquid crystal display. Liquid crystal displays are described which include a backlighting system comprising a backlight source emitting light having a first spectrum at least in a range from ≈ 300 - 450 nm; and the above phosphor composition disposed to absorb light of at least a portion of the first spectrum and to emit light having a second spectrum different from the first spectrum; and a liquid crystal material disposed to receive light having the second spectrum.

ST phosphor blend backlight source color liq crystal display

IT Light sources
(backlight; phosphor blends and backlight sources for liquid crystal displays)

IT Phosphors
(blends; phosphor blends and backlight sources for liquid crystal displays)

IT Phosphors
(blue-emitting; phosphor blends and backlight sources for liquid crystal displays)

IT Liquid crystal displays
(color; phosphor blends and backlight sources for liquid crystal displays)

IT Polysiloxanes, uses
RL: DEV (Device component use); USES (Uses)
(epoxy, phosphor dispersed in; phosphor blends and backlight sources for liquid crystal displays)

IT Phosphors
(green-emitting; phosphor blends and backlight sources for liquid crystal displays)

IT Optical materials
(light-scattering particles dispersed in polymer; phosphor blends and backlight sources for liquid crystal displays)

IT Acrylic polymers, uses
Epoxy resins, uses
Polysiloxanes, uses
RL: DEV (Device component use); USES (Uses)
(phosphor dispersed in; phosphor blends and backlight sources for liquid

crystal displays)

IT Transparent materials
(polymers, phosphor dispersed in; phosphor blends and backlight sources for liquid crystal displays)

IT Epoxy resins, uses
RL: DEV (Device component use); USES (Uses)
(polysiloxane-, phosphor dispersed in; phosphor blends and backlight sources for liquid crystal displays)

IT Phosphors
(red-emitting; phosphor blends and backlight sources for liquid crystal displays)

IT Electroluminescent devices
(semiconductor or organic, backlight source; phosphor blends and backlight sources for liquid crystal displays)

IT 675819-83-7
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(Ce,Tb-codoped; phosphor blends and backlight sources for liquid crystal displays)

IT 12525-03-0, Calcium lanthanum sulfide (CaLa2S4)
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(Ce-doped; phosphor blends and backlight sources for liquid crystal displays)

IT 173525-28-5, Gadolinium lanthanum lutetium yttrium oxide sulfide (Gd,La,Lu,Y)2O2S 675819-90-6 675819-91-7
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(Eu,Bi-codoped; phosphor blends and backlight sources for liquid crystal displays)

IT 675819-89-3
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(Eu,Mn-codoped; phosphor blends and backlight sources for liquid crystal displays)

IT 675819-88-2 675819-92-8
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(Eu,Mn-codoped; phosphor blends and backlight sources for liquid crystal displays)

IT 1314-96-1, Strontium sulfide (SrS) 12535-38-5, Strontium yttrium sulfide (SrY2S4) 82992-94-7, Calcium strontium sulfide ((Ca,Sr)S)
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(Eu-doped; phosphor blends and backlight sources for liquid crystal displays)

IT 12159-91-0, Germanium magnesium fluoride oxide (GeMg4FO5.5)
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(Mn-doped; phosphor blends and backlight sources for liquid crystal displays)

IT 675819-87-1
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(cerium-doped; phosphor blends and backlight sources for liquid crystal displays)

IT 7439-96-5, Manganese, uses 7440-27-9, Terbium, uses 7440-45-1, Cerium, uses 7440-53-1, Europium, uses 7440-69-9, Bismuth, uses 16397-91-4, Manganese(2+), uses 16910-54-6, Europium(2+), uses 18923-26-7, Cerium(3+), uses 19768-33-3, Manganese(4+), uses 22541-18-0,

Europium(3+), uses 22541-20-4, Terbium(3+), uses 23713-46-4, Bismuth(3+), uses
RL: DEV (Device component use); MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(dopant; phosphor blends and backlight sources for liquid crystal displays)

IT 675819-79-1
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(doped; phosphor blends and backlight sources for liquid crystal displays)

IT 473908-57-5
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(doped; phosphor blends and backlight sources for liquid crystal displays)

IT 20775-37-5, Barium magnesium silicate (Ba3MgSi2O8) 76125-60-5, Aluminum strontium oxide (Al14Sr4O25) 97358-83-3, Aluminum barium oxide (Al8BaO13) 144920-98-9, Strontium borate metaphosphate oxide (Sr2(BO3)0.32(PO3)1.68O0.68) 675819-80-4, Boron calcium strontium oxide phosphate (B0-2(Ca,Sr)10O0-3(PO4)6) 675819-81-5, Strontium chloride oxide silicate (Sr4Cl4O0.5(Si2O5)1.5) 675819-82-6, Aluminum barium calcium strontium oxide (Al2(Ba,Ca,Sr)O4) 675819-84-8, Barium calcium strontium silicate ((Ba,Ca,Sr)2(SiO4)) 675819-85-9 675819-86-0
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(europium-doped; phosphor blends and backlight sources for liquid crystal displays)

IT 675819-78-0
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(phosphor blends and backlight sources for liquid crystal displays)

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L10 ANSWER 1 OF 6 CA COPYRIGHT 2008 ACS on STN
AN 145:324196 CA Full-text
ED Entered STN: 05 Oct 2006
TI Growth of nonlinear optical crystal Y0.57La0.72Sc2.71(BO3)4
AU Ye, Ning; Zhang, Yang; Chen, Wei; Keszler, Douglas A.; Aka, Gerard
CS Fujian Institute of Research on the Structure of Matter, National Engineering Research Center for Optoelectronic Crystalline Materials, Chinese Academy of Sciences, Fuzhou, Fujian, 350002, Peop. Rep. China
SO Journal of Crystal Growth (2006), 292(2), 464-467
CODEN: JCRGAE; ISSN: 0022-0248
PB Elsevier B.V.
DT Journal
LA English
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 65, 75
AB Large single crystals of Y0.57La0.72Sc2.71(BO3)4 were grown by a top-seeded high-temperature solution method. The high-energy optical absorption edge for polished pieces is at a wavelength of 190 nm. Sellmeier equations for the dispersion in the refractive indexes were determined from curve fitting of data obtained by the method of min. deviation. From modeling and optical measurements on powders, the nonlinear optical coefficient d11 is 1.35 pm/V.
ST lanthanum scandium yttrium borate crystal growth nonlinear optical susceptibility; second harmonic generation lanthanum scandium yttrium borate; soly lanthanum scandium yttrium borate; melting point lanthanum scandium yttrium borate; birefringence point lanthanum scandium yttrium borate; space group lanthanum scandium yttrium borate; transmission optical lanthanum scandium yttrium borate; Moh hardness lanthanum scandium yttrium borate; XRD lanthanum scandium yttrium borate; refractive index lanthanum scandium yttrium borate; dispersion refractive index lanthanum scandium yttrium borate; absorption optical edge lanthanum scandium yttrium borate; density lanthanum scandium yttrium borate; mol wt lanthanum scandium yttrium borate
IT Optical transmission
(IR; of nonlinear optical crystal Y0.57La0.72Sc2.71(BO3)4)
IT Hardness (mechanical)
(Moh's; of nonlinear optical crystal Y0.57La0.72Sc2.71(BO3)4)
IT Crystal growth
(growth of nonlinear optical crystal Y0.57La0.72Sc2.71(BO3)4)
IT Heat treatment
(growth of nonlinear optical crystal Y0.57La0.72Sc2.71(BO3)4 with)
IT Birefringence
Density
IR spectra
Melting point
Molecular weight
Optical absorption edge
Optical dispersion
Optical transmission
Refractive index
Second-harmonic generation
Second-order nonlinear optical susceptibility
Solubility
Space groups

X-ray diffraction
(of nonlinear optical crystal Y0.57La0.72Sc2.71(BO3)4)
IT 853030-11-2P, Lanthanum scandium yttrium borate (La0.72Sc2.71Y0.57(BO3)4)
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PRP (Properties); PYP (Physical process); PREP (Preparation); PROC (Process)
(growth of nonlinear optical crystal Y0.57La0.72Sc2.71(BO3)4)
IT 12664-58-3, Lithium borate li6b4o9
RL: NUU (Other use, unclassified); USES (Uses)
(growth of nonlinear optical crystal Y0.57La0.72Sc2.71(BO3)4 using)
IT 1303-86-2, Boron sesquioxide, processes 1312-81-8, Lanthanum sesquioxide 1314-36-9, Yttria, processes 12060-08-1, Scandia
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(nonlinear optical crystal Y0.57La0.72Sc2.71(BO3)4 prepared using)
RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L10 ANSWER 2 OF 6 CA COPYRIGHT 2008 ACS on STN
AN 145:133778 CA Full-text
ED Entered STN: 03 Aug 2006
TI Quantum-splitting fluoride-based phosphors and radiation sources and displays incorporating same
IN Manivannan, Venkatesan; Srivastava, Alok Mani; Comanzo, Holly Ann
PA General Electric Company, USA
SO U.S. Pat. Appl. Publ., 22 pp.
CODEN: USXXCO
DT Patent
LA English
INCL 252301400H; 252301400P; 252301400R; 252301500
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2006151747	A1	20060713	US 2005-32910	20050110
	US 7270773	B2	20070918		
PRAI	US 2005-32910		20050110		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2006151747	INCL	252301400H
	IPCI	C09K0011-77 [I,A]; C09K0011-85 [I,A]

IPCR C09K0011-77 [I,A]; C09K0011-77 [I,C]
NCL 252/301.40H; 252/301.40P; 252/301.40R; 252/301.500; 252/301.4H0; 313/467.000; 313/468.000; 313/486.000; 313/487.000
ECLA C09K011/77N4B; C09K011/77P10; C09K011/77T2H; C09K011/77T4B; H01J001/63

AB Phosphors are described by the general formula AGdF4:RE (A = K, Rb, and/or Cs; and RE = rare earth metal activator(s) other than Gd). The phosphors may comprise addnl. alkali metals and metals selected from V, Nb, W, Zr, Hf, Sb, Ge, Sn, Bi, Ga, Zn, In, Cu, Ag, Er, Tm, and/or Pr. Phosphor blends incorporating the phosphors are also described, as are light sources and cathodoluminescent displays. Preparation of the phosphors using a solid-state method without using HF is discussed.

ST quantum splitting alkali metal gadolinium fluoride phosphor; display quantum splitting alkali metal gadolinium fluoride phosphor; light source quantum splitting alkali metal gadolinium fluoride phosphor

IT Fluorides, uses
RL: DEV (Device component use); USES (Uses)
(alkali metal gadolinium; quantum-splitting fluoride-based phosphors and blends containing them and light sources and displays incorporating them)

IT Optical imaging devices
(cathodoluminescent; quantum-splitting fluoride-based phosphors and blends containing them and light sources and displays incorporating them)

IT Fluorescent lamps
Phosphors
(quantum-splitting fluoride-based phosphors and blends containing them and light sources and displays incorporating them)

IT 7429-91-6, Dysprosium, uses 7440-19-9, Samarium, uses 7440-27-9, Terbium, uses 7440-30-4, Thulium, uses 7440-53-1, Europium, uses 7440-60-0, Holmium, uses
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(activator; quantum-splitting fluoride-based phosphors and blends containing them and light sources and displays incorporating them)

IT 7439-93-2, Lithium, uses 7440-03-1, Niobium, uses 7440-10-0, Praseodymium, uses 7440-22-4, Silver, uses 7440-23-5, Sodium, uses 7440-31-5, Tin, uses 7440-33-7, Tungsten, uses 7440-36-0, Antimony, uses 7440-50-8, Copper, uses 7440-52-0, Erbium, uses 7440-55-3, Gallium, uses 7440-56-4, Germanium, uses 7440-58-6, Hafnium, uses 7440-62-2, Vanadium, uses 7440-66-6, Zinc, uses 7440-67-7, Zirconium, uses 7440-69-9, Bismuth, uses 7440-74-6, Indium, uses 18923-26-7, Cerium 3+, uses 22541-20-4, Terbium 3+, uses
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(alkali metal gadolinium fluoride phosphors containing; quantum-splitting fluoride-based phosphors and blends containing them and light sources and displays incorporating them)

IT 176027-02-4
RL: DEV (Device component use); USES (Uses)
(phosphor blends containing alkali metal gadolinium fluoride phosphors and antimony- and europium- and manganese-activated; quantum-splitting fluoride-based phosphors and blends containing them and light sources and displays incorporating them)

IT 13778-59-1, Lanthanum phosphate 55070-88-7, Aluminum cerium magnesium oxide (Al11CeMgO19)
RL: DEV (Device component use); USES (Uses)
(phosphor blends containing alkali metal gadolinium fluoride phosphors and cerium- and terbium-activated; quantum-splitting fluoride-based phosphors and blends containing them and light sources and displays

incorporating them)

IT 1314-36-9, Yttria, uses 12064-62-9, Gadolinium oxide (Gd2O3) 76125-60-5, Strontium aluminate (Sr4Al14O25) 97358-83-3, Barium aluminate (BaAl8O13) 106070-24-0, Aluminum gadolinium yttrium borate (Al3(Gd,Y)(BO3)4) 144920-98-9, Strontium borate metaphosphate oxide (Sr2(BO3)0.32(PO3)1.68O0.68) 675819-83-7 841303-44-4 869368-09-2 869368-11-6 869368-12-7 869368-14-9 875485-03-3
RL: DEV (Device component use); USES (Uses)
(phosphor blends containing alkali metal gadolinium fluoride phosphors and europium-activated; quantum-splitting fluoride-based phosphors and blends containing them and light sources and displays incorporating them)

IT 12159-91-0, Germanium magnesium fluoride oxide (GeMg4FO5.5)
RL: DEV (Device component use); USES (Uses)
(phosphor blends containing alkali metal gadolinium fluoride phosphors and manganese-activated; quantum-splitting fluoride-based phosphors and blends containing them and light sources and displays incorporating them)

IT 7439-96-5, Manganese, uses 7440-45-1, Cerium, uses 16397-91-4, Manganese 2+, uses 16910-54-6, Europium 2+, uses 19768-33-3, Manganese 4+, uses 22541-18-0, Europium 3+, uses 23713-48-6, Antimony 3+, uses
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(phosphor blends containing alkali metal gadolinium fluoride phosphors and phosphors activated with; quantum-splitting fluoride-based phosphors and blends containing them and light sources and displays incorporating them)

IT 106804-21-1, Magnesium strontium phosphate ((Mg,Sr)3(PO4)2)
RL: DEV (Device component use); USES (Uses)
(phosphor blends containing alkali metal gadolinium fluoride phosphors and tin-activated; quantum-splitting fluoride-based phosphors and blends containing them and light sources and displays incorporating them)

IT 13573-11-0, Magnesium tungstate (MgWO4) 36989-78-3 104663-37-8, Gadolinium magnesium borate (GdMgB5O10) 473908-53-1 473908-57-5
RL: DEV (Device component use); USES (Uses)
(phosphor blends containing alkali metal gadolinium fluoride phosphors and; quantum-splitting fluoride-based phosphors and blends containing them and light sources and displays incorporating them)

IT 26916-87-0P, Lithium gadolinium fluoride (LiGdF4) 38670-03-0P, Potassium gadolinium fluoride (KGdF4) 896506-18-6P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(quantum-splitting fluoride-based phosphors and blends containing them and light sources and displays incorporating them)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L10 ANSWER 3 OF 6 CA COPYRIGHT 2008 ACS on STN
AN 144:97410 CA Full-text
ED Entered STN: 26 Jan 2006
TI LED-based edge lit illumination system
IN Jacob, Cherian; Chen, Chen-Lun Hsing; Radkov, Emil; Srivastava, Alok Mani; Setlur, Anant Achyut; Comanzo, Holly Ann; Shiang, Joseph
PA Gelcore, LLC, USA
SO U.S. Pat. Appl. Publ., 10 pp.
CODEN: USXXCO
DT Patent
LA English
INCL 257098000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2006001036	A1	20060105	US 2004-884205	20040702
PRAI US 2004-884205		20040702		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2006001036	INCL	257098000
	IPCI	H01L0033-00 [I,A]
	IPCR	H01L0033-00 [I,A]; H01L0033-00 [I,C]
	NCL	257/098.000
	ECLA	S02B; S02B; S02B; S02B

AB An edge lit illumination system providing backlight utilizing a luminescent impregnated lightguide is described comprising an LED radiation source providing a first radiation and a lightguide optically coupled to the LED radiation source including a luminescent material embedded or coated on an output surface of the lightguide designed to absorb the first radiation, and emit one or more radiations, where the illumination system may further include addnl. optical components such as reflective layers, for directing radiation striking the back surfaces of the light guide back into the lightguide, as well as diffusion layers, UV reflectors, and polarizers. A lightguide for use with an LED light source in an edge lit lighting assembly is also described comprising an optically transmissive monolith having an input surface, a back surface, and an output surface; and a radiation conversion material capable of absorbing a first radiation at a first wavelength and emitting a second radiation at a second wavelength; wherein the radiation conversion material is at least one of dispersed in the lightguide, coated on the output surface of the lightguide, and dispersed in a film on the output and/or back surface of the light guide.
ST LED light illumination source light conversion phosphor waveguide
IT Electroluminescent devices
Light sources
Optical waveguides
(LED-based edge lit illumination system using phosphor doped light guide)
IT 12525-03-0, Calcium lanthanum sulfide (CaLa2S4) 12535-38-5, Strontium yttrium sulfide (SrY2S4) 20775-37-5, Barium magnesium silicate (Ba3MgSi2O8) 76125-60-5, Aluminum strontium oxide (Al14Sr4O25) 82992-94-7, Calcium strontium sulfide ((Ca,Sr)S) 97358-83-3, Aluminum barium oxide (Al8BaO13) 99533-22-9, Calcium magnesium chloride silicate (Ca8MgCl2(SiO4)4) 173525-28-5 223757-06-0, Gadolinium sodium borate oxide (Gd2Na2(BO3)2O) 473908-53-1 473908-57-5 675819-82-6, Aluminum barium calcium strontium oxide (Al2(Ba,Ca,Sr)O4) 675819-83-7 675819-84-8, Barium calcium strontium silicate ((Ba,Ca,Sr)2(SiO4))

675819-85-9 675819-86-0 675819-88-2 675819-91-7 675819-92-8
683211-40-7, Barium calcium silicon strontium nitride ((Ba,Ca,Sr)2Si5N8)
841303-43-3 841303-44-4 841303-47-7, Lutetium tungsten yttrium oxide
((Lu,Y)2WO6) 841303-50-2 841303-51-3 864429-55-0 872458-25-8
872458-26-9
RL: DEV (Device component use); USES (Uses)
(LED-based edge lit illumination system using phosphor doped light guide)

IT 7439-96-5, Manganese, uses 7439-98-7, Molybdenum, uses 7440-09-7, Potassium, uses 7440-27-9, Terbium, uses 7440-36-0, Antimony, uses 7440-45-1, Cerium, uses 7440-53-1, Europium, uses
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(LED-based edge lit illumination system using phosphor doped light guide)

IT 872458-24-7, Calcium strontium phosphate ((Ca,Sr)10(PO4)6)
RL: DEV (Device component use); USES (Uses)
(mixture with boron oxide; LED-based edge lit illumination system using phosphor doped light guide)

IT 1303-86-2, Boron oxide (B2O3), uses
RL: DEV (Device component use); USES (Uses)
(mixture with calcium strontium phosphate; LED-based edge lit illumination system using phosphor doped light guide)

IT 1309-48-4, Magnesium oxide (MgO), uses
RL: DEV (Device component use); USES (Uses)
(mixture with magnesium fluoride and germanium oxide; LED-based edge lit illumination system using phosphor doped light guide)

IT 7783-40-6, Magnesium fluoride (MgF2)
RL: DEV (Device component use); USES (Uses)
(mixture with magnesium oxide and germanium oxide; LED-based edge lit illumination system using phosphor doped light guide)

IT 1310-53-8, Germanium oxide (GeO2), uses
RL: DEV (Device component use); USES (Uses)
(mixture with magnesium oxide and magnesium fluoride; LED-based edge lit illumination system using phosphor doped light guide)

IT 1314-11-0, Strontium oxide (SrO), uses
RL: DEV (Device component use); USES (Uses)
(mixture with phosphorus oxide and boron oxide; LED-based edge lit illumination system using phosphor doped light guide)

IT 76461-00-2, Strontium silicate (Sr2Si3O8)
RL: DEV (Device component use); USES (Uses)
(mixture with strontium chloride; LED-based edge lit illumination system using phosphor doped light guide)

IT 1314-56-3, Phosphorus oxide (P2O5), uses
RL: DEV (Device component use); USES (Uses)
(mixture with strontium oxide and boron oxide; LED-based edge lit illumination system using phosphor doped light guide)

IT 10476-85-4, Strontium chloride (SrCl2)
RL: DEV (Device component use); USES (Uses)
(mixture with strontium silicate; LED-based edge lit illumination system using phosphor doped light guide)

L10 ANSWER 4 OF 6 CA COPYRIGHT 2008 ACS on STN
AN 143:34642 CA Full-text
ED Entered STN: 30 Jun 2005
TI Nonlinear Optical Crystal YxLaySczCBO3)4 (x + y + z = 4)
AU Ye, Ning; Stone-Sundberg, Jennifer L.; Hruschka, Michael A.; Aka, Gerard; Kong, Wei; Keszler, Douglas A.
CS Department of Chemistry, Oregon State University, Corvallis, OR, 97331-4003, USA

SO Chemistry of Materials (2005), 17(10), 2687-2692
CODEN: CMATEX; ISSN: 0897-4756
PB American Chemical Society
DT Journal
LA English
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 75
AB The new nonlinear optical crystal YxLayScz(BO3)4 (x + y + z = 4) was discovered. Phase boundaries were established in the determination of the x, y, z composition parameters that define the existence region of the trigonal huntite-type structure. From single-crystal x-ray diffraction measurements, the member Y0.57La0.72Sc2.71(BO3)4 crystallized in space group R32 with a 9.774(1) and c 7.944(3) Å. Large single crystals were grown by a high-temperature solution method. The high-energy optical absorption edge for polished pieces is at a wavelength <200 nm. Sellmeier equations for the dispersion in the refractive indexes were determined from curve fitting of data obtained by the method of min. deviation. From modeling and optical measurements on powders, the nonlinear optical coefficient d11 is 1.4 pm/V.
ST nonlinear optical crystal lanthanum scandium yttrium borate
IT Crystal structure
Optical absorption edge
Optical dispersion
Refractive index
(of lanthanum scandium yttrium borate nonlinear optical material)
IT Nonlinear optical materials
(preparation and crystal structure of lanthanum scandium yttrium borate)
IT 853030-12-3, Lanthanum scandium yttrium borate (La0.77Sc2.95Y0.28(BO3)4) 853030-13-4, Lanthanum scandium yttrium borate (La0.76Sc2.92Y0.32(BO3)4) 853030-14-5, Lanthanum scandium yttrium borate (La0.8Sc2.82Y0.38(BO3)4) 853030-15-6, Lanthanum scandium yttrium borate (La0.73Sc2.85Y0.42(BO3)4) 853030-16-7, Lanthanum scandium yttrium borate (La0.75Sc2.78Y0.47(BO3)4)
RL: PRP (Properties)
(preparation and crystal lattice parameters of nonlinear optical material)
IT 853030-11-2, Lanthanum scandium yttrium borate (La0.72Sc2.71Y0.57(BO3)4)
RL: PRP (Properties)
(preparation and crystal structure of nonlinear optical material)
IT 648431-00-9, Lanthanum scandium yttrium borate (La0.7Sc3Y0.3(BO3)4)
RL: PRP (Properties)
(preparation and m.p. of nonlinear optical material)
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
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